

SOP 4 - Choice of Chemicals

- A. Consideration of safety, health, and environmental issues should be given when selecting chemicals for use in experiments:
 - 1. Chemical Handling
 - a. Plan how the chemicals will be procured, handled, stored, and discarded before, during, and after the experiment or process.
 - b. Evaluate the chemical risks at each phase of the experiment or process and institute preventive or protective systems for them.
 - c. Substitute less hazardous chemicals for more hazardous chemicals to perform a similar operation.
 - d. Handle chemical waste in an appropriate manner.
- B. Design smaller experiments or processes to minimize time, work, cleanup, and cost.
- C. Verify that appropriate equipment is available for handling the chemicals being used.
- D. Verify that appropriate protective systems are in place prior to using a chemical:
- E. Hoods or shields to protect against impact.
- F. Hoods or respirators to protect respiratory system.
- G. Ventilation system of appropriate design to exhaust contaminants.
- H. Gloves, aprons, coats, and other personal protective equipment to protect against contact.

II. Emergency Preparedness

- A. Fail safe devices.
- B. Alarms
- C. First response:
 - 1. First aid.
 - 2. Transportation.
 - 3. Medical treatment.
- D. The RL, CDSO, BSO, LRPO, or CHO should review the experiment or process design where special or unusual risks are presented.